SEQUENCE LISTING

<110> Salbaum, Michael J.

<120> NOPE Polypeptides, Encoding Nucleic
Acids and Methods of Use

<130> P-NI 4552

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<151> 2000-01-04

<150> US 60/205,789
<151> 2000-05-19

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aag ctg agc tgt gat gag gga ccc ctg caa gtg atc ctg ggc cct gag   144
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gag aac ctg cac ctg cta ccc aat ggc tcc ctg tgg ctg tcc tca ccc   288
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Val Thr Glu Gly Ser Tyr Ser Cys Leu Ala His Ser Pro Leu Gly Val
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gtg gcc agc cag gtt gct gtg gtc aag ctt gcc aca ctc gaa gac ttc   432
Val Ala Ser Gln Val Ala Val Val Lys Leu Ala Thr Leu Glu Asp Phe
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tct ctg cac ccc gag tcc cag att gtg gag gag aac ggg aca gca cgc   480
Ser Leu His Pro Glu Ser Gln Ile Val Glu Glu Asn Gly Thr Ala Arg
145                 150                 155                 160

ttt gaa tgc cac acc aag ggc ctt cca gcc ccc atc att act tgg gaa   528
Phe Glu Cys His Thr Lys Gly Leu Pro Ala Pro Ile Ile Thr Trp Glu
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aag gac cag gtg acc gtg cct gag gag ccc cgg ctc atc act ctt ccc   576
Lys Asp Gln Val Thr Val Pro Glu Glu Pro Arg Leu Ile Thr Leu Pro
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Lys Trp Leu Leu Gln Ile Leu Asp Val Gln Asp Ser Asp Ala Gly Ser
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Phe Val Ser Trp Val Arg Gln Asp Gly Lys Pro Ile Ser Thr Asp Val
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atc gtt ctg ggc cgg acc aat cta ctc atc gcc agc gcg cag cct cgg   912
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Phe Ala Thr Ala Ala Ala Glu Leu Arg Val Leu Ala Ala Pro Ala Ile
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tcg cag gca ccc gag gcg ctc tcg cgg acg cgg gcc agc acc gcg cgc   1056
Ser Gln Ala Pro Glu Ala Leu Ser Arg Thr Arg Ala Ser Thr Ala Arg
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Phe Val Cys Arg Ala Ser Gly Glu Pro Arg Pro Ala Leu His Trp Leu
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Tyr Tyr Gln Cys Val Ala Glu Asn Ser Ala Gly Thr Ala Cys Ala Ala
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gcg ccc ctg gcg gta gtg gtg cgc gag ggg ctg ccc agc gcc ccg act   1296
Ala Pro Leu Ala Val Val Val Arg Glu Gly Leu Pro Ser Ala Pro Thr
            420                 425                 430

cgg gtc aca gcc acg ccg ctg agc agc tcc tct gtg ctg gtg gcc tgg   1344
Arg Val Thr Ala Thr Pro Leu Ser Ser Ser Ser Val Leu Val Ala Trp
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gag cgg cct gag ttg cac agc gag caa atc att ggc ttc tct ctt cac   1392
Glu Arg Pro Glu Leu His Ser Glu Gln Ile Ile Gly Phe Ser Leu His
    450                 455                 460

tac caa aag gca agg gga gtg gac aat gtg gag tac cag ttt gca gta   1440
Tyr Gln Lys Ala Arg Gly Val Asp Asn Val Glu Tyr Gln Phe Ala Val
465                 470                 475                 480

aac aat gac acc aca gag ctg cag gtt cgg gac ctg gaa ccc aac acg   1488
Asn Asn Asp Thr Thr Glu Leu Gln Val Arg Asp Leu Glu Pro Asn Thr
                485                 490                 495

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Asp Tyr Glu Phe Tyr Val Val Ala Tyr Ser Gln Leu Gly Ala Ser Arg
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Ala Pro Gln Leu Thr Leu Ser Ser Pro Asn Pro Ser Asp Ile Arg Val
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gca tgg ctg ccc ctg ccc tcc agc ctg agc aat gga cag gtg ctg aag   1680
Ala Trp Leu Pro Leu Pro Ser Ser Leu Ser Asn Gly Gln Val Leu Lys
545                 550                 555                 560

tac aag ata gag tac ggt ttg ggg aag gaa gat cag gtt ttc tcc acc   1728
Tyr Lys Ile Glu Tyr Gly Leu Gly Lys Glu Asp Gln Val Phe Ser Thr
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gag gtg cct gga aat gag aca caa ctt acg tta aac tca ctt cag cca   1776
Glu Val Pro Gly Asn Glu Thr Gln Leu Thr Leu Asn Ser Leu Gln Pro
            580                 585                 590

aac aaa gtg tac cga gtc cgg att tca gct ggc act ggc gct ggc tat   1824
Asn Lys Val Tyr Arg Val Arg Ile Ser Ala Gly Thr Gly Ala Gly Tyr
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Gly Val Pro Ser Gln Trp Met Gln His Arg Thr Pro Gly Val His Asn
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Gln Ser His Val Pro Phe Ala Pro Ala Glu Leu Lys Val Arg Ala Lys
625                 630                 635                 640

atg gag tcc ctg gtg gtg tca tgg cag ccg ccc cct cac ccc acc cag   1968
Met Glu Ser Leu Val Val Ser Trp Gln Pro Pro Pro His Pro Thr Gln
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atc tct gga tac aaa ctc tac tgg gga gag gtg gga aca gag gag gag   2016
Ile Ser Gly Tyr Lys Leu Tyr Trp Gly Glu Val Gly Thr Glu Glu Glu
            660                 665                 670

gca gat ggt gac cgc ccc cca ggg ggt cgt gga gat caa gct tgg gac   2064
Ala Asp Gly Asp Arg Pro Pro Gly Gly Arg Gly Asp Gln Ala Trp Asp
        675                 680                 685

gtc ggg ccc gtg cgg ctg aag aag aaa gtg aag cag tat gaa ctg acc   2112
Val Gly Pro Val Arg Leu Lys Lys Lys Val Lys Gln Tyr Glu Leu Thr
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cag tta gtc cct ggc agg ccg tac gag gtg aag ctc gta gct ttc aac   2160
Gln Leu Val Pro Gly Arg Pro Tyr Glu Val Lys Leu Val Ala Phe Asn
705                 710                 715                 720

aaa cac gag gac ggc tac gct gct gtg tgg aag ggc aag acg gag aag   2208
Lys His Glu Asp Gly Tyr Ala Ala Val Trp Lys Gly Lys Thr Glu Lys
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gcc cat gtc cac gca gag tca aac agc tcc act tcc att tgg ctt cgg   2304
Ala His Val His Ala Glu Ser Asn Ser Ser Thr Ser Ile Trp Leu Arg
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tgg aag aag cca gac ttt acc act gtc aag att gtc aac tac act gta   2352
Trp Lys Lys Pro Asp Phe Thr Thr Val Lys Ile Val Asn Tyr Thr Val
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Arg Phe Gly Pro Trp Gly Leu Arg Asn Ala Ser Leu Val Thr Tyr Tyr
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acc agc tct gga gaa gac att ctc att ggc ggc ctg aaa cca ttt acc   2448
Thr Ser Ser Gly Glu Asp Ile Leu Ile Gly Gly Leu Lys Pro Phe Thr
                805                 810                 815

aag tac gag ttt gcg gta cag tcc cac gga gtg gat atg gat ggg ccc   2496
Lys Tyr Glu Phe Ala Val Gln Ser His Gly Val Asp Met Asp Gly Pro
            820                 825                 830

ttt ggc tcc gtc gta gaa cgc tcc acc ctg cct gac cgg cct tca aca   2544
Phe Gly Ser Val Val Glu Arg Ser Thr Leu Pro Asp Arg Pro Ser Thr
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cct cct tct gac ctg cgc ctg agc ccc ctg aca cca tcc acc gtt cgg   2592
Pro Pro Ser Asp Leu Arg Leu Ser Pro Leu Thr Pro Ser Thr Val Arg
    850                 855                 860

tta cac tgg tgt ccc ccc acg gag ccc aat ggt gag att gtg gag tat   2640
Leu His Trp Cys Pro Pro Thr Glu Pro Asn Gly Glu Ile Val Glu Tyr
865                 870                 875                 880

cta att ctc tac agc aac aac cac acc cag ccc gaa cac cag tgg aca   2688
Leu Ile Leu Tyr Ser Asn Asn His Thr Gln Pro Glu His Gln Trp Thr
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ctg ctc acc aca gag gga aac atc ttc agt gca gag gtc cat ggc cta   2736
Leu Leu Thr Thr Glu Gly Asn Ile Phe Ser Ala Glu Val His Gly Leu
            900                 905                 910

gag agt gac act cgg tat ttc ttc aag atg gga gcc cgc aca gag gtg   2784
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ggg cct ggg ccc ttt tcc cgc ttg cag gat gtg att act ctg caa gag   2832
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ggt gtc tgc ctg ggc ctt ctc tgc ctc ctg gcc tgc atg tgt gct ggc   2928
Gly Val Cys Leu Gly Leu Leu Cys Leu Leu Ala Cys Met Cys Ala Gly
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cta cga caa agc tcc cac agg gaa gcc ctt ccc gga ttg tcc tcc tca   2976
Leu Arg Gln Ser Ser His Arg Glu Ala Leu Pro Gly Leu Ser Ser Ser
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ggc acc cca gga aac cca gcg ctc tac aca aga gct cgg ctt ggg cct   3024
Gly Thr Pro Gly Asn Pro Ala Leu Tyr Thr Arg Ala Arg Leu Gly Pro
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ccc agt gtc cct gct gcc cat gag ttg gag tcc ctc gtg cat cct cgt   3072
Pro Ser Val Pro Ala Ala His Glu Leu Glu Ser Leu Val His Pro Arg
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ccc cag gat tgg tcc cca cca ccc tca gat gtg gaa gac aag gct gaa   3120
Pro Gln Asp Trp Ser Pro Pro Pro Ser Asp Val Glu Asp Lys Ala Glu
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Val His Ser Leu Met Gly Gly Ser Val Ser Asp Cys Arg Gly His Ser
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tcc tgg gca ggc tgt gag ctg ccc cag ggt agt ggt cca agg ccg gct   3264
Ser Trp Ala Gly Cys Glu Leu Pro Gln Gly Ser Gly Pro Arg Pro Ala
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ccg tcc cca gcc tgc agg aat cag gtg gaa gct gag gtc att gtc cac   3408
Pro Ser Pro Ala Cys Arg Asn Gln Val Glu Ala Glu Val Ile Val His
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tcc gac ttc ggt gca tcc aaa gga tgt cct gac ctc cac ctc caa gac   3456
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Gly Ala Val Asp Leu Ser Gln Gly Ala Asp Trp Leu Gly Arg Glu Leu
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gga ggg tgc caa cca aca acc agt ggg cca gag agg ctc acc tgc ttg   3600
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cca gaa gca gcc agt gcc tcc tgc tcc tgc tca gac ctc cag ccc agc   3648
Pro Glu Ala Ala Ser Ala Ser Cys Ser Cys Ser Asp Leu Gln Pro Ser
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act gct ata gag gag gcc cct ggg aaa agc tgc cag ccc aaa gcc ctg   3696
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Cys Pro Leu Thr Val Ser Pro Ser Leu Pro Arg Ala Pro Val Ser Ser
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Lys Leu Ser Cys Asp Glu Gly Pro Leu Gln Val Ile Leu Gly Pro Glu
        35                  40                  45
Gln Ala Val Val Leu Asp Cys Thr Leu Gly Ala Thr Ala Ala Gly Pro
    50                  55                  60
Pro Thr Arg Val Thr Trp Ser Lys Asp Gly Asp Thr Val Leu Glu His
65                  70                  75                  80
Glu Asn Leu His Leu Leu Pro Asn Gly Ser Leu Trp Leu Ser Ser Pro
                85                  90                  95
Leu Glu Gln Glu Asp Ser Asp Asp Glu Glu Ala Leu Arg Ile Trp Lys
            100                 105                 110
Val Thr Glu Gly Ser Tyr Ser Cys Leu Ala His Ser Pro Leu Gly Val
        115                 120                 125
Val Ala Ser Gln Val Ala Val Val Lys Leu Ala Thr Leu Glu Asp Phe
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Ser Leu His Pro Glu Ser Gln Ile Val Glu Glu Asn Gly Thr Ala Arg
145                 150                 155                 160
Phe Glu Cys His Thr Lys Gly Leu Pro Ala Pro Ile Ile Thr Trp Glu
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Lys Asp Gln Val Thr Val Pro Glu Glu Pro Arg Leu Ile Thr Leu Pro
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Lys Trp Leu Leu Gln Ile Leu Asp Val Gln Asp Ser Asp Ala Gly Ser
        195                 200                 205
Tyr Arg Cys Val Ala Thr Asn Ser Ala Arg Gln Arg Phe Ser Gln Glu
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Ala Ser Leu Thr Val Ala Leu Arg Gly Ser Leu Glu Ala Thr Arg Gly
225                 230                 235                 240
Gln Asp Val Val Ile Val Ala Ala Pro Glu Asn Thr Thr Val Val Ser
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Ile Val Leu Gly Arg Thr Asn Leu Leu Ile Ala Ser Ala Gln Pro Arg
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His Ser Gly Val Tyr Val Cys Arg Ala Asn Lys Pro Leu Thr Arg Asp
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His Asp Gly Ile Pro Leu Arg Pro Asn Gly Arg Val Lys Val Gln Gly
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Tyr Tyr Gln Cys Val Ala Glu Asn Ser Ala Gly Thr Ala Cys Ala Ala
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Ala Pro Leu Ala Val Val Val Arg Glu Gly Leu Pro Ser Ala Pro Thr
            420                 425                 430
Arg Val Thr Ala Thr Pro Leu Ser Ser Ser Ser Val Leu Val Ala Trp
        435                 440                 445
Glu Arg Pro Glu Leu His Ser Glu Gln Ile Ile Gly Phe Ser Leu His
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Tyr Gln Lys Ala Arg Gly Val Asp Asn Val Glu Tyr Gln Phe Ala Val
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Ala Trp Leu Pro Leu Pro Ser Ser Leu Ser Asn Gly Gln Val Leu Lys
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Asn Lys Val Tyr Arg Val Arg Ile Ser Ala Gly Thr Gly Ala Gly Tyr
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Gly Val Pro Ser Gln Trp Met Gln His Arg Thr Pro Gly Val His Asn
    610                 615                 620
Gln Ser His Val Pro Phe Ala Pro Ala Glu Leu Lys Val Arg Ala Lys
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Ile Ser Gly Tyr Lys Leu Tyr Trp Gly Glu Val Gly Thr Glu Glu Glu
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Gln Leu Val Pro Gly Arg Pro Tyr Glu Val Lys Leu Val Ala Phe Asn
705                 710                 715                 720
Lys His Glu Asp Gly Tyr Ala Ala Val Trp Lys Gly Lys Thr Glu Lys
                725                 730                 735
Ala Pro Thr Pro Asp Leu Pro Ile Gln Arg Gly Pro Pro Leu Pro Pro
            740                 745                 750
Ala His Val His Ala Glu Ser Asn Ser Ser Thr Ser Ile Trp Leu Arg
        755                 760                 765
Trp Lys Lys Pro Asp Phe Thr Thr Val Lys Ile Val Asn Tyr Thr Val
    770                 775                 780
Arg Phe Gly Pro Trp Gly Leu Arg Asn Ala Ser Leu Val Thr Tyr Tyr
785                 790                 795                 800
Thr Ser Ser Gly Glu Asp Ile Leu Ile Gly Gly Leu Lys Pro Phe Thr
                805                 810                 815
Lys Tyr Glu Phe Ala Val Gln Ser His Gly Val Asp Met Asp Gly Pro
            820                 825                 830
Phe Gly Ser Val Val Glu Arg Ser Thr Leu Pro Asp Arg Pro Ser Thr
        835                 840                 845
Pro Pro Ser Asp Leu Arg Leu Ser Pro Leu Thr Pro Ser Thr Val Arg
    850                 855                 860
Leu His Trp Cys Pro Pro Thr Glu Pro Asn Gly Glu Ile Val Glu Tyr
865                 870                 875                 880
Leu Ile Leu Tyr Ser Asn Asn His Thr Gln Pro Glu His Gln Trp Thr
                885                 890                 895
Leu Leu Thr Thr Glu Gly Asn Ile Phe Ser Ala Glu Val His Gly Leu
            900                 905                 910
Glu Ser Asp Thr Arg Tyr Phe Phe Lys Met Gly Ala Arg Thr Glu Val
        915                 920                 925
Gly Pro Gly Pro Phe Ser Arg Leu Gln Asp Val Ile Thr Leu Gln Glu
    930                 935                 940
Thr Phe Ser Asp Ser Leu Asp Val His Ala Val Thr Gly Ile Ile Val
945                 950                 955                 960
Gly Val Cys Leu Gly Leu Leu Cys Leu Leu Ala Cys Met Cys Ala Gly
                965                 970                 975
Leu Arg Gln Ser Ser His Arg Glu Ala Leu Pro Gly Leu Ser Ser Ser
            980                 985                 990
Gly Thr Pro Gly Asn Pro Ala Leu Tyr Thr Arg Ala Arg Leu Gly Pro
        995                 1000                1005
Pro Ser Val Pro Ala Ala His Glu Leu Glu Ser Leu Val His Pro Arg
    1010                1015                1020
Pro Gln Asp Trp Ser Pro Pro Pro Ser Asp Val Glu Asp Lys Ala Glu
1025                1030                1035                1040
Val His Ser Leu Met Gly Gly Ser Val Ser Asp Cys Arg Gly His Ser
                1045                1050                1055
Lys Arg Lys Ile Ser Trp Ala Gln Ala Gly Gly Pro Asn Trp Ala Gly
            1060                1065                1070
Ser Trp Ala Gly Cys Glu Leu Pro Gln Gly Ser Gly Pro Arg Pro Ala
        1075                1080                1085
Leu Thr Arg Ala Leu Leu Pro Pro Ala Gly Thr Gly Gln Thr Leu Leu
```

```
    1090                1095                1100
Leu Gln Ala Leu Val Tyr Asp Gly Ile Lys Ser Asn Gly Arg Lys Lys
1105                1110                1115                1120
Pro Ser Pro Ala Cys Arg Asn Gln Val Glu Ala Glu Val Ile Val His
                1125                1130                1135
Ser Asp Phe Gly Ala Ser Lys Gly Cys Pro Asp Leu His Leu Gln Asp
            1140                1145                1150
Leu Glu Pro Glu Glu Pro Leu Thr Ala Glu Thr Leu Pro Ser Thr Ser
        1155                1160                1165
Gly Ala Val Asp Leu Ser Gln Gly Ala Asp Trp Leu Gly Arg Glu Leu
    1170                1175                1180
Gly Gly Cys Gln Pro Thr Thr Ser Gly Pro Glu Arg Leu Thr Cys Leu
1185                1190                1195                1200
Pro Glu Ala Ala Ser Ala Ser Cys Ser Cys Ser Asp Leu Gln Pro Ser
                1205                1210                1215
Thr Ala Ile Glu Glu Ala Pro Gly Lys Ser Cys Gln Pro Lys Ala Leu
            1220                1225                1230
Cys Pro Leu Thr Val Ser Pro Ser Leu Pro Arg Ala Pro Val Ser Ser
        1235                1240                1245
Ala Gln Val Pro
    1250
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ggg gag ctg cca ttg ccc cag gag aca act gtc aag ctg agc tgt gat   48
Gly Glu Leu Pro Leu Pro Gln Glu Thr Thr Val Lys Leu Ser Cys Asp
 1               5                  10                  15

gag gga ccc ctg caa gtg atc ctg ggc cct gag cag gct gtg gtg ctg   96
Glu Gly Pro Leu Gln Val Ile Leu Gly Pro Glu Gln Ala Val Val Leu
            20                  25                  30

gac tgc act ttg ggg gct aca gct gct ggg cct ccg acc agg gtg aca  144
Asp Cys Thr Leu Gly Ala Thr Ala Ala Gly Pro Pro Thr Arg Val Thr
        35                  40                  45

tgg agc aag gat gga gac act gta cta gag cat gag aac ctg cac ctg  192
Trp Ser Lys Asp Gly Asp Thr Val Leu Glu His Glu Asn Leu His Leu
    50                  55                  60

cta ccc aat ggc tcc ctg tgg ctg tcc tca ccc cta gag caa gaa gac  240
Leu Pro Asn Gly Ser Leu Trp Leu Ser Ser Pro Leu Glu Gln Glu Asp
65                  70                  75                  80
```

```
agc gat gat gag gaa gct ctt agg atc tgg aag gtc act gag ggc agc   288
Ser Asp Asp Glu Glu Ala Leu Arg Ile Trp Lys Val Thr Glu Gly Ser
                85                  90                  95

tat tcc tgt ctg gcc cac agc ccg cta gga gtg gtg gcc agc cag gtt   336
Tyr Ser Cys Leu Ala His Ser Pro Leu Gly Val Val Ala Ser Gln Val
            100                 105                 110

gct gtg gtc aag ctt gcc aca ctc gaa gac ttc tct ctg cac ccc gag   384
Ala Val Val Lys Leu Ala Thr Leu Glu Asp Phe Ser Leu His Pro Glu
        115                 120                 125

tcc cag att gtg gag gag aac ggg aca gca cgc ttt gaa tgc cac acc   432
Ser Gln Ile Val Glu Glu Asn Gly Thr Ala Arg Phe Glu Cys His Thr
    130                 135                 140

aag ggc ctt cca gcc ccc atc att act tgg gaa aag gac cag gtg acc   480
Lys Gly Leu Pro Ala Pro Ile Ile Thr Trp Glu Lys Asp Gln Val Thr
145                 150                 155                 160

gtg cct gag gag ccc cgg ctc atc act ctt ccc aag tgg ctc ctc cag   528
Val Pro Glu Glu Pro Arg Leu Ile Thr Leu Pro Lys Trp Leu Leu Gln
                165                 170                 175

atc cta gat gtc cag gac agt gat gca ggc tcc tac cgc tgc gtg gcc   576
Ile Leu Asp Val Gln Asp Ser Asp Ala Gly Ser Tyr Arg Cys Val Ala
            180                 185                 190

acc aat tca gcc cgc caa cga ttc agc cag gag gcc tcg ctc act gtg   624
Thr Asn Ser Ala Arg Gln Arg Phe Ser Gln Glu Ala Ser Leu Thr Val
        195                 200                 205

gcc ctc aga ggg tct ttg gag gct acc agg ggg cag gat gtg gtc att   672
Ala Leu Arg Gly Ser Leu Glu Ala Thr Arg Gly Gln Asp Val Val Ile
    210                 215                 220

gtg gca gcc cca gag aac acc acg gta gtg tct gga cag aat gta gtg   720
Val Ala Ala Pro Glu Asn Thr Thr Val Val Ser Gly Gln Asn Val Val
225                 230                 235                 240

atg gag tgc gtg gcc tct gct gac ccc acc cct ttt gtg tcc tgg gtc   768
Met Glu Cys Val Ala Ser Ala Asp Pro Thr Pro Phe Val Ser Trp Val
                245                 250                 255

cga cag gat gga aag cct atc tcc acg gat gtc atc gtt ctg ggc cgg   816
Arg Gln Asp Gly Lys Pro Ile Ser Thr Asp Val Ile Val Leu Gly Arg
            260                 265                 270

acc aat cta ctc atc gcc agc gcg cag cct cgg cac tct gga gtc tat   864
Thr Asn Leu Leu Ile Ala Ser Ala Gln Pro Arg His Ser Gly Val Tyr
        275                 280                 285

gtc tgc cga gcc aac aag ccc ctc acg cgt gac ttc gcc act gcg gct   912
```

```
Val Cys Arg Ala Asn Lys Pro Leu Thr Arg Asp Phe Ala Thr Ala Ala
    290                 295                 300

gct gag ctc cga gtg ctt gct gcc cca gcc atc tcg cag gca ccc gag   960
Ala Glu Leu Arg Val Leu Ala Ala Pro Ala Ile Ser Gln Ala Pro Glu
305                 310                 315                 320

gcg ctc tcg cgg acg cgg gcc agc acc gcg cgc ttc gtg tgc cgg gcg   1008
Ala Leu Ser Arg Thr Arg Ala Ser Thr Ala Arg Phe Val Cys Arg Ala
                325                 330                 335

tcc ggg gag cca cgg ccc gcg ctg cac tgg ctg cac gac ggg atc ccg   1056
Ser Gly Glu Pro Arg Pro Ala Leu His Trp Leu His Asp Gly Ile Pro
            340                 345                 350

ttg cga ccc aat ggg cgc gtc aag gtg cag ggc ggt ggc ggc agc ttg   1104
Leu Arg Pro Asn Gly Arg Val Lys Val Gln Gly Gly Gly Gly Ser Leu
        355                 360                 365

gtc atc act cag atc ggc ctg cag gac gct ggc tac tac cag tgc gta   1152
Val Ile Thr Gln Ile Gly Leu Gln Asp Ala Gly Tyr Tyr Gln Cys Val
    370                 375                 380

gca gaa aac agc gcg gga act gcc tgt gcc gct gcg ccc ctg gcg gta   1200
Ala Glu Asn Ser Ala Gly Thr Ala Cys Ala Ala Ala Pro Leu Ala Val
385                 390                 395                 400

gtg gtg cgc gag ggg ctg ccc agc gcc ccg act cgg gtc aca gcc acg   1248
Val Val Arg Glu Gly Leu Pro Ser Ala Pro Thr Arg Val Thr Ala Thr
                405                 410                 415

ccg ctg agc agc tcc tct gtg ctg gtg gcc tgg gag cgg cct gag ttg   1296
Pro Leu Ser Ser Ser Ser Val Leu Val Ala Trp Glu Arg Pro Glu Leu
            420                 425                 430

cac agc gag caa atc att ggc ttc tct ctt cac tac caa aag gca agg   1344
His Ser Glu Gln Ile Ile Gly Phe Ser Leu His Tyr Gln Lys Ala Arg
        435                 440                 445

gga gtg gac aat gtg gag tac cag ttt gca gta aac aat gac acc aca   1392
Gly Val Asp Asn Val Glu Tyr Gln Phe Ala Val Asn Asn Asp Thr Thr
    450                 455                 460

gag ctg cag gtt cgg gac ctg gaa ccc aac acg gat tat gag ttc tac   1440
Glu Leu Gln Val Arg Asp Leu Glu Pro Asn Thr Asp Tyr Glu Phe Tyr
465                 470                 475                 480

gtg gtg gcc tac tcc cag ctg ggg gcc agc cga acc tcc agc cca gcc   1488
Val Val Ala Tyr Ser Gln Leu Gly Ala Ser Arg Thr Ser Ser Pro Ala
                485                 490                 495

ctg gtg cat aca ctg gac gat gtc ccc agc gca gca ccc cag ctt acc   1536
Leu Val His Thr Leu Asp Asp Val Pro Ser Ala Ala Pro Gln Leu Thr
```

```
                500                 505                 510

ttg tcc agc ccc aac ccc tcg gac atc agg gtg gca tgg ctg ccc ctg   1584
Leu Ser Ser Pro Asn Pro Ser Asp Ile Arg Val Ala Trp Leu Pro Leu
        515                 520                 525

ccc tcc agc ctg agc aat gga cag gtg ctg aag tac aag ata gag tac   1632
Pro Ser Ser Leu Ser Asn Gly Gln Val Leu Lys Tyr Lys Ile Glu Tyr
    530                 535                 540

ggt ttg ggg aag gaa gat cag gtt ttc tcc acc gag gtg cct gga aat   1680
Gly Leu Gly Lys Glu Asp Gln Val Phe Ser Thr Glu Val Pro Gly Asn
545                 550                 555                 560

gag aca caa ctt acg tta aac tca ctt cag cca aac aaa gtg tac cga   1728
Glu Thr Gln Leu Thr Leu Asn Ser Leu Gln Pro Asn Lys Val Tyr Arg
                565                 570                 575

gtc cgg att tca gct ggc act ggc gct ggc tat gga gtc cct tct cag   1776
Val Arg Ile Ser Ala Gly Thr Gly Ala Gly Tyr Gly Val Pro Ser Gln
            580                 585                 590

tgg atg cag cac agg aca cct ggt gtg cac aac cag agc cat gtt ccc   1824
Trp Met Gln His Arg Thr Pro Gly Val His Asn Gln Ser His Val Pro
        595                 600                 605

ttt gcc cct gca gaa ttg aag gtg agg gca aag atg gag tcc ctg gtg   1872
Phe Ala Pro Ala Glu Leu Lys Val Arg Ala Lys Met Glu Ser Leu Val
    610                 615                 620

gtg tca tgg cag ccg ccc cct cac ccc acc cag atc tct gga tac aaa   1920
Val Ser Trp Gln Pro Pro Pro His Pro Thr Gln Ile Ser Gly Tyr Lys
625                 630                 635                 640

ctc tac tgg gga gag gtg gga aca gag gag gag gca gat ggt gac cgc   1968
Leu Tyr Trp Gly Glu Val Gly Thr Glu Glu Glu Ala Asp Gly Asp Arg
                645                 650                 655

ccc cca ggg ggt cgt gga gat caa gct tgg gac gtc ggg ccc gtg cgg   2016
Pro Pro Gly Gly Arg Gly Asp Gln Ala Trp Asp Val Gly Pro Val Arg
            660                 665                 670

ctg aag aag aaa gtg aag cag tat gaa ctg acc cag tta gtc cct ggc   2064
Leu Lys Lys Lys Val Lys Gln Tyr Glu Leu Thr Gln Leu Val Pro Gly
        675                 680                 685

agg ccg tac gag gtg aag ctc gta gct ttc aac aaa cac gag gac ggc   2112
Arg Pro Tyr Glu Val Lys Leu Val Ala Phe Asn Lys His Glu Asp Gly
    690                 695                 700

tac gct gct gtg tgg aag ggc aag acg gag aag gcg ccc acg cca gac   2160
Tyr Ala Ala Val Trp Lys Gly Lys Thr Glu Lys Ala Pro Thr Pro Asp
705                 710                 715                 720
```

```
ctg cct atc cag agg ggg cca ccg ctg cct cct gcc cat gtc cac gca   2208
Leu Pro Ile Gln Arg Gly Pro Pro Leu Pro Pro Ala His Val His Ala
                725                 730                 735

gag tca aac agc tcc act tcc att.tgg ctt cgg tgg aag aag cca gac   2256
Glu Ser Asn Ser Ser Thr Ser Ile Trp Leu Arg Trp Lys Lys Pro Asp
            740                 745                 750

ttt acc act gtc aag att gtc aac tac act gta cgc ttc ggc ccc tgg   2304
Phe Thr Thr Val Lys Ile Val Asn Tyr Thr Val Arg Phe Gly Pro Trp
        755                 760                 765

ggg ctc agg aat gct tcc ctg gtc acc tac tat acc agc tct gga gaa   2352
Gly Leu Arg Asn Ala Ser Leu Val Thr Tyr Tyr Thr Ser Ser Gly Glu
    770                 775                 780

gac att ctc att ggc ggc ctg aaa cca ttt acc aag tac gag ttt gcg   2400
Asp Ile Leu Ile Gly Gly Leu Lys Pro Phe Thr Lys Tyr Glu Phe Ala
785                 790                 795                 800

gta cag tcc cac gga gtg gat atg gat ggg ccc ttt ggc tcc gtc gta   2448
Val Gln Ser His Gly Val Asp Met Asp Gly Pro Phe Gly Ser Val Val
                805                 810                 815

gaa cgc tcc acc ctg cct gac cgg cct tca aca cct cct tct gac ctg   2496
Glu Arg Ser Thr Leu Pro Asp Arg Pro Ser Thr Pro Pro Ser Asp Leu
            820                 825                 830

cgc ctg agc ccc ctg aca cca tcc acc gtt cgg tta cac tgg tgt ccc   2544
Arg Leu Ser Pro Leu Thr Pro Ser Thr Val Arg Leu His Trp Cys Pro
        835                 840                 845

ccc acg gag ccc aat ggt gag att gtg gag tat cta att ctc tac agc   2592
Pro Thr Glu Pro Asn Gly Glu Ile Val Glu Tyr Leu Ile Leu Tyr Ser
    850                 855                 860

aac aac cac acc cag ccc gaa cac cag tgg aca ctg ctc acc aca gag   2640
Asn Asn His Thr Gln Pro Glu His Gln Trp Thr Leu Leu Thr Thr Glu
865                 870                 875                 880

gga aac atc ttc agt gca gag gtc cat ggc cta gag agt gac act cgg   2688
Gly Asn Ile Phe Ser Ala Glu Val His Gly Leu Glu Ser Asp Thr Arg
                885                 890                 895

tat ttc ttc aag atg gga gcc cgc aca gag gtg ggg cct ggg ccc ttt   2736
Tyr Phe Phe Lys Met Gly Ala Arg Thr Glu Val Gly Pro Gly Pro Phe
            900                 905                 910

tcc cgc ttg cag gat gtg att act ctg caa gag aca ttc tca gac tcc   2784
Ser Arg Leu Gln Asp Val Ile Thr Leu Gln Glu Thr Phe Ser Asp Ser
        915                 920                 925
```

2796

ttg gat gtg cac
Leu Asp Val His
930

<210> 4
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Gly Glu Leu Pro Leu Pro Gln Glu Thr Thr Val Lys Leu Ser Cys Asp
 1               5                  10                  15
Glu Gly Pro Leu Gln Val Ile Leu Gly Pro Glu Gln Ala Val Val Leu
            20                  25                  30
Asp Cys Thr Leu Gly Ala Thr Ala Ala Gly Pro Pro Thr Arg Val Thr
        35                  40                  45
Trp Ser Lys Asp Gly Asp Thr Val Leu Glu His Glu Asn Leu His Leu
    50                  55                  60
Leu Pro Asn Gly Ser Leu Trp Leu Ser Ser Pro Leu Glu Gln Glu Asp
65                  70                  75                  80
Ser Asp Asp Glu Glu Ala Leu Arg Ile Trp Lys Val Thr Glu Gly Ser
                85                  90                  95
Tyr Ser Cys Leu Ala His Ser Pro Leu Gly Val Val Ala Ser Gln Val
            100                 105                 110
Ala Val Val Lys Leu Ala Thr Leu Glu Asp Phe Ser Leu His Pro Glu
        115                 120                 125
Ser Gln Ile Val Glu Glu Asn Gly Thr Ala Arg Phe Glu Cys His Thr
    130                 135                 140
Lys Gly Leu Pro Ala Pro Ile Ile Thr Trp Glu Lys Asp Gln Val Thr
145                 150                 155                 160
Val Pro Glu Glu Pro Arg Leu Ile Thr Leu Pro Lys Trp Leu Leu Gln
                165                 170                 175
Ile Leu Asp Val Gln Asp Ser Asp Ala Gly Ser Tyr Arg Cys Val Ala
            180                 185                 190
Thr Asn Ser Ala Arg Gln Arg Phe Ser Gln Glu Ala Ser Leu Thr Val
        195                 200                 205
Ala Leu Arg Gly Ser Leu Glu Ala Thr Arg Gly Gln Asp Val Val Ile
    210                 215                 220
Val Ala Ala Pro Glu Asn Thr Thr Val Val Ser Gly Gln Asn Val Val
225                 230                 235                 240
Met Glu Cys Val Ala Ser Ala Asp Pro Thr Pro Phe Val Ser Trp Val
                245                 250                 255
Arg Gln Asp Gly Lys Pro Ile Ser Thr Asp Val Ile Val Leu Gly Arg
            260                 265                 270
Thr Asn Leu Leu Ile Ala Ser Ala Gln Pro Arg His Ser Gly Val Tyr
        275                 280                 285
Val Cys Arg Ala Asn Lys Pro Leu Thr Arg Asp Phe Ala Thr Ala Ala
    290                 295                 300
Ala Glu Leu Arg Val Leu Ala Ala Pro Ala Ile Ser Gln Ala Pro Glu
305                 310                 315                 320
Ala Leu Ser Arg Thr Arg Ala Ser Thr Ala Arg Phe Val Cys Arg Ala
                325                 330                 335
```

```
Ser Gly Glu Pro Arg Pro Ala Leu His Trp Leu His Asp Gly Ile Pro
            340                 345                 350
Leu Arg Pro Asn Gly Arg Val Lys Val Gln Gly Gly Gly Gly Ser Leu
        355                 360                 365
Val Ile Thr Gln Ile Gly Leu Gln Asp Ala Gly Tyr Tyr Gln Cys Val
    370                 375                 380
Ala Glu Asn Ser Ala Gly Thr Ala Cys Ala Ala Ala Pro Leu Ala Val
385                 390                 395                 400
Val Val Arg Glu Gly Leu Pro Ser Ala Pro Thr Arg Val Thr Ala Thr
                405                 410                 415
Pro Leu Ser Ser Ser Ser Val Leu Val Ala Trp Glu Arg Pro Glu Leu
            420                 425                 430
His Ser Glu Gln Ile Ile Gly Phe Ser Leu His Tyr Gln Lys Ala Arg
        435                 440                 445
Gly Val Asp Asn Val Glu Tyr Gln Phe Ala Val Asn Asn Asp Thr Thr
    450                 455                 460
Glu Leu Gln Val Arg Asp Leu Glu Pro Asn Thr Asp Tyr Glu Phe Tyr
465                 470                 475                 480
Val Val Ala Tyr Ser Gln Leu Gly Ala Ser Arg Thr Ser Ser Pro Ala
                485                 490                 495
Leu Val His Thr Leu Asp Asp Val Pro Ser Ala Ala Pro Gln Leu Thr
            500                 505                 510
Leu Ser Ser Pro Asn Pro Ser Asp Ile Arg Val Ala Trp Leu Pro Leu
        515                 520                 525
Pro Ser Ser Leu Ser Asn Gly Gln Val Leu Lys Tyr Lys Ile Glu Tyr
    530                 535                 540
Gly Leu Gly Lys Glu Asp Gln Val Phe Ser Thr Glu Val Pro Gly Asn
545                 550                 555                 560
Glu Thr Gln Leu Thr Leu Asn Ser Leu Gln Pro Asn Lys Val Tyr Arg
                565                 570                 575
Val Arg Ile Ser Ala Gly Thr Gly Ala Gly Tyr Gly Val Pro Ser Gln
            580                 585                 590
Trp Met Gln His Arg Thr Pro Gly Val His Asn Gln Ser His Val Pro
        595                 600                 605
Phe Ala Pro Ala Glu Leu Lys Val Arg Ala Lys Met Glu Ser Leu Val
    610                 615                 620
Val Ser Trp Gln Pro Pro Pro His Pro Thr Gln Ile Ser Gly Tyr Lys
625                 630                 635                 640
Leu Tyr Trp Gly Glu Val Gly Thr Glu Glu Glu Ala Asp Gly Asp Arg
                645                 650                 655
Pro Pro Gly Gly Arg Gly Asp Gln Ala Trp Asp Val Gly Pro Val Arg
            660                 665                 670
Leu Lys Lys Lys Val Lys Gln Tyr Glu Leu Thr Gln Leu Val Pro Gly
        675                 680                 685
Arg Pro Tyr Glu Val Lys Leu Val Ala Phe Asn Lys His Glu Asp Gly
    690                 695                 700
Tyr Ala Ala Val Trp Lys Gly Lys Thr Glu Lys Ala Pro Thr Pro Asp
705                 710                 715                 720
Leu Pro Ile Gln Arg Gly Pro Pro Leu Pro Pro Ala His Val His Ala
                725                 730                 735
Glu Ser Asn Ser Ser Thr Ser Ile Trp Leu Arg Trp Lys Lys Pro Asp
            740                 745                 750
Phe Thr Thr Val Lys Ile Val Asn Tyr Thr Val Arg Phe Gly Pro Trp
```

```
        755                 760                 765
Gly Leu Arg Asn Ala Ser Leu Val Thr Tyr Tyr Thr Ser Ser Gly Glu
    770                 775                 780
Asp Ile Leu Ile Gly Gly Leu Lys Pro Phe Thr Lys Tyr Glu Phe Ala
785                 790                 795                 800
Val Gln Ser His Gly Val Asp Met Asp Gly Pro Phe Gly Ser Val Val
                805                 810                 815
Glu Arg Ser Thr Leu Pro Asp Arg Pro Ser Thr Pro Pro Ser Asp Leu
            820                 825                 830
Arg Leu Ser Pro Leu Thr Pro Ser Thr Val Arg Leu His Trp Cys Pro
        835                 840                 845
Pro Thr Glu Pro Asn Gly Glu Ile Val Glu Tyr Leu Ile Leu Tyr Ser
    850                 855                 860
Asn Asn His Thr Gln Pro Glu His Gln Trp Thr Leu Leu Thr Thr Glu
865                 870                 875                 880
Gly Asn Ile Phe Ser Ala Glu Val His Gly Leu Glu Ser Asp Thr Arg
                885                 890                 895
Tyr Phe Phe Lys Met Gly Ala Arg Thr Glu Val Gly Pro Gly Pro Phe
            900                 905                 910
Ser Arg Leu Gln Asp Val Ile Thr Leu Gln Glu Thr Phe Ser Asp Ser
        915                 920                 925
Leu Asp Val His
    930
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<222> (1)...(825)

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cga caa agc tcc cac agg gaa gcc ctt ccc gga ttg tcc tcc tca ggc   48
Arg Gln Ser Ser His Arg Glu Ala Leu Pro Gly Leu Ser Ser Ser Gly
 1               5                  10                  15

acc cca gga aac cca gcg ctc tac aca aga gct cgg ctt ggg cct ccc   96
Thr Pro Gly Asn Pro Ala Leu Tyr Thr Arg Ala Arg Leu Gly Pro Pro
            20                  25                  30

agt gtc cct gct gcc cat gag ttg gag tcc ctc gtg cat cct cgt ccc  144
Ser Val Pro Ala Ala His Glu Leu Glu Ser Leu Val His Pro Arg Pro
        35                  40                  45

cag gat tgg tcc cca cca ccc tca gat gtg gaa gac aag gct gaa gta  192
Gln Asp Trp Ser Pro Pro Pro Ser Asp Val Glu Asp Lys Ala Glu Val
    50                  55                  60

cac agc ctt atg ggt ggc agt gtt tca gat tgc cgg ggc cac tcc aag  240
His Ser Leu Met Gly Gly Ser Val Ser Asp Cys Arg Gly His Ser Lys
```

```
65                  70                  75                  80

aga aag atc tcc tgg gct cag gca ggg gga cca aac tgg gca ggc tcc   288
Arg Lys Ile Ser Trp Ala Gln Ala Gly Gly Pro Asn Trp Ala Gly Ser
                85                  90                  95

tgg gca ggc tgt gag ctg ccc cag ggt agt ggt cca agg ccg gct ctg   336
Trp Ala Gly Cys Glu Leu Pro Gln Gly Ser Gly Pro Arg Pro Ala Leu
            100                 105                 110

acc cgt gct ctg ctg cct cca gcg gga acc ggg cag aca ctg ctg ctg   384
Thr Arg Ala Leu Leu Pro Pro Ala Gly Thr Gly Gln Thr Leu Leu Leu
        115                 120                 125

caa gcc ctg gtg tat gac ggc ata aag agc aac ggg aga aag aag ccg   432
Gln Ala Leu Val Tyr Asp Gly Ile Lys Ser Asn Gly Arg Lys Lys Pro
    130                 135                 140

tcc cca gcc tgc agg aat cag gtg gaa gct gag gtc att gtc cac tcc   480
Ser Pro Ala Cys Arg Asn Gln Val Glu Ala Glu Val Ile Val His Ser
145                 150                 155                 160

gac ttc ggt gca tcc aaa gga tgt cct gac ctc cac ctc caa gac ctg   528
Asp Phe Gly Ala Ser Lys Gly Cys Pro Asp Leu His Leu Gln Asp Leu
                165                 170                 175

gag cca gag gaa cca ctg act gca gag act ctg cct tcc acg tct gga   576
Glu Pro Glu Glu Pro Leu Thr Ala Glu Thr Leu Pro Ser Thr Ser Gly
            180                 185                 190

gct gtg gat ctg tct caa gga gca gac tgg ctg ggc agg gag ctg gga   624
Ala Val Asp Leu Ser Gln Gly Ala Asp Trp Leu Gly Arg Glu Leu Gly
        195                 200                 205

ggg tgc caa cca aca acc agt ggg cca gag agg ctc acc tgc ttg cca   672
Gly Cys Gln Pro Thr Thr Ser Gly Pro Glu Arg Leu Thr Cys Leu Pro
    210                 215                 220

gaa gca gcc agt gcc tcc tgc tcc tgc tca gac ctc cag ccc agc act   720
Glu Ala Ala Ser Ala Ser Cys Ser Cys Ser Asp Leu Gln Pro Ser Thr
225                 230                 235                 240

gct ata gag gag gcc cct ggg aaa agc tgc cag ccc aaa gcc ctg tgt   768
Ala Ile Glu Glu Ala Pro Gly Lys Ser Cys Gln Pro Lys Ala Leu Cys
                245                 250                 255

cct cta aca gtc agc cca agc ctt ccc agg gcc cct gtc tcc tct gct   816
Pro Leu Thr Val Ser Pro Ser Leu Pro Arg Ala Pro Val Ser Ser Ala
            260                 265                 270

cag gtc ccc                                                       825
Gln Val Pro
        275
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<210> 6
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<212> PRT
<213> Mus musculus

<400> 6

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Arg Gln Ser Ser His Arg Glu Ala Leu Pro Gly Leu Ser Ser Ser Gly
 1               5                  10                  15
Thr Pro Gly Asn Pro Ala Leu Tyr Thr Arg Ala Arg Leu Gly Pro Pro
            20                  25                  30
Ser Val Pro Ala Ala His Glu Leu Glu Ser Leu Val His Pro Arg Pro
        35                  40                  45
Gln Asp Trp Ser Pro Pro Pro Ser Asp Val Glu Asp Lys Ala Glu Val
    50                  55                  60
His Ser Leu Met Gly Gly Ser Val Ser Asp Cys Arg Gly His Ser Lys
65                  70                  75                  80
Arg Lys Ile Ser Trp Ala Gln Ala Gly Gly Pro Asn Trp Ala Gly Ser
                85                  90                  95
Trp Ala Gly Cys Glu Leu Pro Gln Gly Ser Gly Pro Arg Pro Ala Leu
            100                 105                 110
Thr Arg Ala Leu Leu Pro Pro Ala Gly Thr Gly Gln Thr Leu Leu Leu
        115                 120                 125
Gln Ala Leu Val Tyr Asp Gly Ile Lys Ser Asn Gly Arg Lys Lys Pro
    130                 135                 140
Ser Pro Ala Cys Arg Asn Gln Val Glu Ala Glu Val Ile Val His Ser
145                 150                 155                 160
Asp Phe Gly Ala Ser Lys Gly Cys Pro Asp Leu His Leu Gln Asp Leu
                165                 170                 175
Glu Pro Glu Glu Pro Leu Thr Ala Glu Thr Leu Pro Ser Thr Ser Gly
            180                 185                 190
Ala Val Asp Leu Ser Gln Gly Ala Asp Trp Leu Gly Arg Glu Leu Gly
        195                 200                 205
Gly Cys Gln Pro Thr Thr Ser Gly Pro Glu Arg Leu Thr Cys Leu Pro
    210                 215                 220
Glu Ala Ala Ser Ala Ser Cys Ser Cys Ser Asp Leu Gln Pro Ser Thr
225                 230                 235                 240
Ala Ile Glu Glu Ala Pro Gly Lys Ser Cys Gln Pro Lys Ala Leu Cys
                245                 250                 255
Pro Leu Thr Val Ser Pro Ser Leu Pro Arg Ala Pro Val Ser Ser Ala
            260                 265                 270
Gln Val Pro
        275
```

<210> 7
<211> 243
<212> DNA
<213> Mus musculus

<220>
<221> CDS

<222> (1)...(243)

<400> 7

```
cct gag cag gct gtg gtg ctg gac tgc act ttg ggg gct aca gct gct   48
Pro Glu Gln Ala Val Val Leu Asp Cys Thr Leu Gly Ala Thr Ala Ala
 1               5                  10                  15

ggg cct ccg acc agg gtg aca tgg agc aag gat gga gac act gta cta   96
Gly Pro Pro Thr Arg Val Thr Trp Ser Lys Asp Gly Asp Thr Val Leu
            20                  25                  30

gag cat gag aac ctg cac ctg cta ccc aat ggc tcc ctg tgg ctg tcc   144
Glu His Glu Asn Leu His Leu Leu Pro Asn Gly Ser Leu Trp Leu Ser
        35                  40                  45

tca ccc cta gag caa gaa gac agc gat gat gag gaa gct ctt agg atc   192
Ser Pro Leu Glu Gln Glu Asp Ser Asp Asp Glu Glu Ala Leu Arg Ile
    50                  55                  60

tgg aag gtc act gag ggc agc tat tcc tgt ctg gcc cac agc ccg cta   240
Trp Lys Val Thr Glu Gly Ser Tyr Ser Cys Leu Ala His Ser Pro Leu
65                  70                  75                  80

gga                                                               243
Gly
```

<210> 8
<211> 81
<212> PRT
<213> Mus musculus

<400> 8

```
Pro Glu Gln Ala Val Val Leu Asp Cys Thr Leu Gly Ala Thr Ala Ala
 1               5                  10                  15
Gly Pro Pro Thr Arg Val Thr Trp Ser Lys Asp Gly Asp Thr Val Leu
            20                  25                  30
Glu His Glu Asn Leu His Leu Leu Pro Asn Gly Ser Leu Trp Leu Ser
        35                  40                  45
Ser Pro Leu Glu Gln Glu Asp Ser Asp Asp Glu Glu Ala Leu Arg Ile
    50                  55                  60
Trp Lys Val Thr Glu Gly Ser Tyr Ser Cys Leu Ala His Ser Pro Leu
65                  70                  75                  80
Gly
```

<210> 9
<211> 192
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(192)

<400> 9
gag aac ggg aca gca cgc ttt gaa tgc cac acc aag ggc ctt cca gcc 48
Glu Asn Gly Thr Ala Arg Phe Glu Cys His Thr Lys Gly Leu Pro Ala
1 5 10 15

ccc atc att act tgg gaa aag gac cag gtg acc gtg cct gag gag ccc 96
Pro Ile Ile Thr Trp Glu Lys Asp Gln Val Thr Val Pro Glu Glu Pro
20 25 30

cgg ctc atc act ctt ccc aag tgg ctc ctc cag atc cta gat gtc cag 144
Arg Leu Ile Thr Leu Pro Lys Trp Leu Leu Gln Ile Leu Asp Val Gln
35 40 45

gac agt gat gca ggc tcc tac cgc tgc gtg gcc acc aat tca gcc cgc 192
Asp Ser Asp Ala Gly Ser Tyr Arg Cys Val Ala Thr Asn Ser Ala Arg
50 55 60

<210> 10
<211> 64
<212> PRT
<213> Mus musculus

<400> 10
Glu Asn Gly Thr Ala Arg Phe Glu Cys His Thr Lys Gly Leu Pro Ala
1 5 10 15
Pro Ile Ile Thr Trp Glu Lys Asp Gln Val Thr Val Pro Glu Glu Pro
20 25 30
Arg Leu Ile Thr Leu Pro Lys Trp Leu Leu Gln Ile Leu Asp Val Gln
35 40 45
Asp Ser Asp Ala Gly Ser Tyr Arg Cys Val Ala Thr Asn Ser Ala Arg
50 55 60

<210> 11
<211> 189
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(189)

<400> 11
tct gga cag aat gta gtg atg gag tgc gtg gcc tct gct gac ccc acc 48
Ser Gly Gln Asn Val Val Met Glu Cys Val Ala Ser Ala Asp Pro Thr
1 5 10 15

```
cct ttt gtg tcc tgg gtc cga cag gat gga aag cct atc tcc acg gat   96
Pro Phe Val Ser Trp Val Arg Gln Asp Gly Lys Pro Ile Ser Thr Asp
             20                  25                  30

gtc atc gtt ctg ggc cgg acc aat cta ctc atc gcc agc gcg cag cct   144
Val Ile Val Leu Gly Arg Thr Asn Leu Leu Ile Ala Ser Ala Gln Pro
         35                  40                  45

cgg cac tct gga gtc tat gtc tgc cga gcc aac aag ccc ctc acg       189
Arg His Ser Gly Val Tyr Val Cys Arg Ala Asn Lys Pro Leu Thr
     50                  55                  60
```

<210> 12
<211> 63
<212> PRT
<213> Mus musculus

<400> 12

```
Ser Gly Gln Asn Val Val Met Glu Cys Val Ala Ser Ala Asp Pro Thr
 1               5                  10                  15
Pro Phe Val Ser Trp Val Arg Gln Asp Gly Lys Pro Ile Ser Thr Asp
            20                  25                  30
Val Ile Val Leu Gly Arg Thr Asn Leu Leu Ile Ala Ser Ala Gln Pro
        35                  40                  45
Arg His Ser Gly Val Tyr Val Cys Arg Ala Asn Lys Pro Leu Thr
    50                  55                  60
```

<210> 13
<211> 195
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(195)

<400> 13

```
cgg gcc agc acc gcg cgc ttc gtg tgc cgg gcg tcc ggg gag cca cgg   48
Arg Ala Ser Thr Ala Arg Phe Val Cys Arg Ala Ser Gly Glu Pro Arg
 1               5                  10                  15

ccc gcg ctg cac tgg ctg cac gac ggg atc ccg ttg cga ccc aat ggg   96
Pro Ala Leu His Trp Leu His Asp Gly Ile Pro Leu Arg Pro Asn Gly
            20                  25                  30

cgc gtc aag gtg cag ggc ggt ggc ggc agc ttg gtc atc act cag atc   144
Arg Val Lys Val Gln Gly Gly Gly Gly Ser Leu Val Ile Thr Gln Ile
        35                  40                  45

ggc ctg cag gac gct ggc tac tac cag tgc gta gca gaa aac agc gcg   192
```

```
Gly Leu Gln Asp Ala Gly Tyr Tyr Gln Cys Val Ala Glu Asn Ser Ala
     50                  55                  60

gga                                                              195
Gly
 65
```

<210> 14
<211> 65
<212> PRT
<213> Mus musculus

<400> 14

```
Arg Ala Ser Thr Ala Arg Phe Val Cys Arg Ala Ser Gly Glu Pro Arg
 1               5                  10                  15
Pro Ala Leu His Trp Leu His Asp Gly Ile Pro Leu Arg Pro Asn Gly
            20                  25                  30
Arg Val Lys Val Gln Gly Gly Gly Gly Ser Leu Val Ile Thr Gln Ile
        35                  40                  45
Gly Leu Gln Asp Ala Gly Tyr Tyr Gln Cys Val Ala Glu Asn Ser Ala
    50                  55                  60
Gly
65
```

<210> 15
<211> 249
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(249)

<400> 15

```
agc gcc ccg act cgg gtc aca gcc acg ccg ctg agc agc tcc tct gtg   48
Ser Ala Pro Thr Arg Val Thr Ala Thr Pro Leu Ser Ser Ser Ser Val
 1               5                  10                  15

ctg gtg gcc tgg gag cgg cct gag ttg cac agc gag caa atc att ggc   96
Leu Val Ala Trp Glu Arg Pro Glu Leu His Ser Glu Gln Ile Ile Gly
            20                  25                  30

ttc tct ctt cac tac caa aag gca agg gga gtg gac aat gtg gag tac   144
Phe Ser Leu His Tyr Gln Lys Ala Arg Gly Val Asp Asn Val Glu Tyr
        35                  40                  45

cag ttt gca gta aac aat gac acc aca gag ctg cag gtt cgg gac ctg   192
Gln Phe Ala Val Asn Asn Asp Thr Thr Glu Leu Gln Val Arg Asp Leu
    50                  55                  60

gaa ccc aac acg gat tat gag ttc tac gtg gtg gcc tac tcc cag ctg   240
```

```
Glu Pro Asn Thr Asp Tyr Glu Phe Tyr Val Val Ala Tyr Ser Gln Leu
 65                  70                  75                  80

                                                                249
ggg gcc agc
Gly Ala Ser
```

<210> 16
<211> 83
<212> PRT
<213> Mus musculus

<400> 16

```
Ser Ala Pro Thr Arg Val Thr Ala Thr Pro Leu Ser Ser Ser Ser Val
 1               5                  10                  15
Leu Val Ala Trp Glu Arg Pro Glu Leu His Ser Glu Gln Ile Ile Gly
            20                  25                  30
Phe Ser Leu His Tyr Gln Lys Ala Arg Gly Val Asp Asn Val Glu Tyr
        35                  40                  45
Gln Phe Ala Val Asn Asn Asp Thr Thr Glu Leu Gln Val Arg Asp Leu
    50                  55                  60
Glu Pro Asn Thr Asp Tyr Glu Phe Tyr Val Val Ala Tyr Ser Gln Leu
65                  70                  75                  80
Gly Ala Ser
```

<210> 17
<211> 249
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(249)

<400> 17

```
agc gca gca ccc cag ctt acc ttg tcc agc ccc aac ccc tcg gac atc   48
Ser Ala Ala Pro Gln Leu Thr Leu Ser Ser Pro Asn Pro Ser Asp Ile
 1               5                  10                  15

agg gtg gca tgg ctg ccc ctg ccc tcc agc ctg agc aat gga cag gtg   96
Arg Val Ala Trp Leu Pro Leu Pro Ser Ser Leu Ser Asn Gly Gln Val
            20                  25                  30

ctg aag tac aag ata gag tac ggt ttg ggg aag gaa gat cag gtt ttc  144
Leu Lys Tyr Lys Ile Glu Tyr Gly Leu Gly Lys Glu Asp Gln Val Phe
        35                  40                  45

tcc acc gag gtg cct gga aat gag aca caa ctt acg tta aac tca ctt  192
Ser Thr Glu Val Pro Gly Asn Glu Thr Gln Leu Thr Leu Asn Ser Leu
    50                  55                  60
```

```
cag cca aac aaa gtg tac cga gtc cgg att tca gct ggc act ggc gct   240
Gln Pro Asn Lys Val Tyr Arg Val Arg Ile Ser Ala Gly Thr Gly Ala
 65                  70                  75                  80

ggc tat gga                                                      249
Gly Tyr Gly
```

<210> 18
<211> 83
<212> PRT
<213> Mus musculus

<400> 18

```
Ser Ala Ala Pro Gln Leu Thr Leu Ser Ser Pro Asn Pro Ser Asp Ile
 1               5                  10                  15
Arg Val Ala Trp Leu Pro Leu Pro Ser Ser Leu Ser Asn Gly Gln Val
            20                  25                  30
Leu Lys Tyr Lys Ile Glu Tyr Gly Leu Gly Lys Glu Asp Gln Val Phe
        35                  40                  45
Ser Thr Glu Val Pro Gly Asn Glu Thr Gln Leu Thr Leu Asn Ser Leu
    50                  55                  60
Gln Pro Asn Lys Val Tyr Arg Val Arg Ile Ser Ala Gly Thr Gly Ala
65                  70                  75                  80
Gly Tyr Gly
```

<210> 19
<211> 288
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(288)

<400> 19

```
ttt gcc cct gca gaa ttg aag gtg agg gca aag atg gag tcc ctg gtg   48
Phe Ala Pro Ala Glu Leu Lys Val Arg Ala Lys Met Glu Ser Leu Val
 1               5                  10                  15

gtg tca tgg cag ccg ccc cct cac ccc acc cag atc tct gga tac aaa   96
Val Ser Trp Gln Pro Pro Pro His Pro Thr Gln Ile Ser Gly Tyr Lys
            20                  25                  30

ctc tac tgg gga gag gtg gga aca gag gag gag gca gat ggt gac cgc   144
Leu Tyr Trp Gly Glu Val Gly Thr Glu Glu Glu Ala Asp Gly Asp Arg
        35                  40                  45

ccc cca ggg ggt cgt gga gat caa gct tgg gac gtc ggg ccc gtg cgg   192
```

```
Pro Pro Gly Gly Arg Gly Asp Gln Ala Trp Asp Val Gly Pro Val Arg
     50                  55                  60

ctg aag aag aaa gtg aag cag tat gaa ctg acc cag tta gtc cct ggc   240
Leu Lys Lys Lys Val Lys Gln Tyr Glu Leu Thr Gln Leu Val Pro Gly
 65                  70                  75                  80

agg ccg tac gag gtg aag ctc gta gct ttc aac aaa cac gag gac ggc   288
Arg Pro Tyr Glu Val Lys Leu Val Ala Phe Asn Lys His Glu Asp Gly
                85                  90                  95
```

<210> 20
<211> 96
<212> PRT
<213> Mus musculus

<400> 20

```
Phe Ala Pro Ala Glu Leu Lys Val Arg Ala Lys Met Glu Ser Leu Val
 1               5                  10                  15
Val Ser Trp Gln Pro Pro Pro His Pro Thr Gln Ile Ser Gly Tyr Lys
            20                  25                  30
Leu Tyr Trp Gly Glu Val Gly Thr Glu Glu Glu Ala Asp Gly Asp Arg
        35                  40                  45
Pro Pro Gly Gly Arg Gly Asp Gln Ala Trp Asp Val Gly Pro Val Arg
    50                  55                  60
Leu Lys Lys Lys Val Lys Gln Tyr Glu Leu Thr Gln Leu Val Pro Gly
65                  70                  75                  80
Arg Pro Tyr Glu Val Lys Leu Val Ala Phe Asn Lys His Glu Asp Gly
                85                  90                  95
```

<210> 21
<211> 246
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(246)

<400> 21

```
ctg cct cct gcc cat gtc cac gca gag tca aac agc tcc act tcc att   48
Leu Pro Pro Ala His Val His Ala Glu Ser Asn Ser Ser Thr Ser Ile
 1               5                  10                  15

tgg ctt cgg tgg aag aag cca gac ttt acc act gtc aag att gtc aac   96
Trp Leu Arg Trp Lys Lys Pro Asp Phe Thr Thr Val Lys Ile Val Asn
            20                  25                  30

tac act gta cgc ttc ggc ccc tgg ggg ctc agg aat gct tcc ctg gtc   144
Tyr Thr Val Arg Phe Gly Pro Trp Gly Leu Arg Asn Ala Ser Leu Val
```

```
          35                  40                  45

acc tac tat acc agc tct gga gaa gac att ctc att ggc ggc ctg aaa   192
Thr Tyr Tyr Thr Ser Ser Gly Glu Asp Ile Leu Ile Gly Gly Leu Lys
     50                  55                  60

cca ttt acc aag tac gag ttt gcg gta cag tcc cac gga gtg gat atg   240
Pro Phe Thr Lys Tyr Glu Phe Ala Val Gln Ser His Gly Val Asp Met
 65                  70                  75                  80

gat ggg                                                           246
Asp Gly
```

<210> 22
<211> 82
<212> PRT
<213> Mus musculus

<400> 22

```
Leu Pro Pro Ala His Val His Ala Glu Ser Asn Ser Ser Thr Ser Ile
 1               5                  10                  15
Trp Leu Arg Trp Lys Lys Pro Asp Phe Thr Thr Val Lys Ile Val Asn
            20                  25                  30
Tyr Thr Val Arg Phe Gly Pro Trp Gly Leu Arg Asn Ala Ser Leu Val
        35                  40                  45
Thr Tyr Tyr Thr Ser Ser Gly Glu Asp Ile Leu Ile Gly Gly Leu Lys
    50                  55                  60
Pro Phe Thr Lys Tyr Glu Phe Ala Val Gln Ser His Gly Val Asp Met
65                  70                  75                  80
Asp Gly
```

<210> 23
<211> 252
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)...(252)

<400> 23

```
aca cct cct tct gac ctg cgc ctg agc ccc ctg aca cca tcc acc gtt   48
Thr Pro Pro Ser Asp Leu Arg Leu Ser Pro Leu Thr Pro Ser Thr Val
 1               5                  10                  15

cgg tta cac tgg tgt ccc ccc acg gag ccc aat ggt gag att gtg gag   96
Arg Leu His Trp Cys Pro Pro Thr Glu Pro Asn Gly Glu Ile Val Glu
            20                  25                  30
```

```
tat cta att ctc tac agc aac aac cac acc cag ccc gaa cac cag tgg   144
Tyr Leu Ile Leu Tyr Ser Asn Asn His Thr Gln Pro Glu His Gln Trp
          35                  40                  45

aca ctg ctc acc aca gag gga aac atc ttc agt gca gag gtc cat ggc   192
Thr Leu Leu Thr Thr Glu Gly Asn Ile Phe Ser Ala Glu Val His Gly
      50                  55                  60

cta gag agt gac act cgg tat ttc ttc aag atg gga gcc cgc aca gag   240
Leu Glu Ser Asp Thr Arg Tyr Phe Phe Lys Met Gly Ala Arg Thr Glu
 65                  70                  75                  80

gtg ggg cct ggg                                                   252
Val Gly Pro Gly
```

<210> 24
<211> 84
<212> PRT
<213> Mus musculus

<400> 24

```
Thr Pro Pro Ser Asp Leu Arg Leu Ser Pro Leu Thr Pro Ser Thr Val
 1               5                  10                  15
Arg Leu His Trp Cys Pro Pro Thr Glu Pro Asn Gly Glu Ile Val Glu
            20                  25                  30
Tyr Leu Ile Leu Tyr Ser Asn Asn His Thr Gln Pro Glu His Gln Trp
        35                  40                  45
Thr Leu Leu Thr Thr Glu Gly Asn Ile Phe Ser Ala Glu Val His Gly
    50                  55                  60
Leu Glu Ser Asp Thr Arg Tyr Phe Phe Lys Met Gly Ala Arg Thr Glu
65                  70                  75                  80
Val Gly Pro Gly
```

<210> 25
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 25
aagcaggtga gcctctctgg cccact 26

<210> 26
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 26
cttgagacag atccacagct ccagac 26

<210> 27
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 27
atccgggaag ggcttccctg tgggagcttc 30

<210> 28
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 28
gcgctgggga catcgtccag tgtatg 26

<210> 29
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 29
gttccaggtc ccgaacctgc agctctgt 28

<210> 30
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 30
ccactcccct tgccttttgg tagtgaa 27

<210> 31
<211> 21
<212> DNA

<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 31
gtgctgacct tctgcctgct g 21

<210> 32
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 32
ctctgtctgc tacactggtc aa 22

<210> 33
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 33
tggacgccaa ggagttgg 18

<210> 34
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 34
caaatcccac agaacagga 19

<210> 35
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 35
acgggcatca tcgtggg 17

<210> 36

<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 36
gaggaggaca atccgggaag ggctt 25

<210> 37
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 37
tcaagcagtt gacacttgac tgtg 24

<210> 38
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 38
taatctcaca gtgatgagag gaga 24

<210> 39
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 39
ctgtgtctca atcttgaaca aacaca 26

<210> 40
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 40
ggaagagaga cagtaaacat ttcgt 25

<210> 41
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 41
ctcccttcct tcctgatcgt tttc 24

<210> 42
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 42
cggctctcaa gcactgcaga ttttg 25

<210> 43
<211> 500
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (276)...(338)

<400> 43
aggctggtgg cgcgcgggcg cgtgtccccct gtggtgcagg gtggccacac tggcggggcg 60
cccccgcgtg ggccgctagc ccaagatggc gatggagggg cgggcgagct ggccgcggcc 120
ccggcccccg cgccggcccc cgctcggccc cggccccgga ggcccgcgcc ccgcccgcgg 180
cgccgcgcct cccggagcca ctgacgcccg gcgcgccctc ccccggcggc ggcccaggcg 240
cccggacgcg gcggcagcgg cccgagcccg gccct atg gcg cgg gcg gac acg 293
Met Ala Arg Ala Asp Thr
1 5

ggc cgc ggg ctc ctg gtg ctg acc ttc tgc ctg ctg tcc gcg cgc 338
Gly Arg Gly Leu Leu Val Leu Thr Phe Cys Leu Leu Ser Ala Arg
10 15 20

ggtaagggcc cgggtggccg cagtcgcgag tgggcgtccc cggcgcccgc gatgcttgcg 398
cgccgggggc tgtggggact tgcccccagg gggtgtgtgt ccttgctgtg cacagcctgg 458
caccgtgcgt gtccccctgc gcgtggccct tgtgcatgtg ag 500

<210> 44
<211> 21
<212> PRT
<213> Mus musculus

<400> 44
Met Ala Arg Ala Asp Thr Gly Arg Gly Leu Leu Val Leu Thr Phe Cys
1 5 10 15
Leu Leu Ser Ala Arg
20

<210> 45
<211> 3756
<212> DNA
<213> Mus musculus

<400> 45
atggcgcggg cggacacggg ccgcgggctc ctggtgctga ccttctgcct gctgtccgcg 60
cgcggggagc tgccattgcc ccaggagaca actgtcaagc tgagctgtga tgagggaccc 120
ctgcaagtga tcctgggccc tgagcaggct gtggtgctgg actgcacttt gggggctaca 180
gctgctgggc ctccgaccag ggtgacatgg agcaaggatg gagacactgt actagagcat 240
gagaacctgc acctgctacc caatggctcc ctgtggctgt cctcacccct agagcaagaa 300
gacagcgatg atgaggaagc tcttaggatc tggaaggtca ctgagggcag ctattcctgt 360
ctggcccaca gcccgctagg agtggtggcc agccaggttg ctgtggtcaa gcttgccaca 420
ctcgaagact tctctctgca ccccgagtcc cagattgtgg aggagaacgg gacagcacgc 480
tttgaatgcc acaccaaggg ccttccagcc cccatcatta cttgggaaaa ggaccaggtg 540
accgtgcctg aggagccccg gctcatcact cttcccaagt ggctcctcca gatcctagat 600
gtccaggaca gtgatgcagg ctcctaccgc tgcgtggcca ccaattcagc ccgccaacga 660
ttcagccagg aggcctcgct cactgtggcc ctcagagggt ctttggaggc taccaggggg 720
caggatgtgg tcattgtggc agccccagag aacaccacgg tagtgtctgg acagaatgta 780
gtgatggagt gcgtggcctc tgctgacccc acccctttg tgtcctgggt ccgacaggat 840
ggaaagccta tctccacgga tgtcatcgtt ctgggccgga ccaatctact catcgccagc 900
gcgcagcctc ggcactctgg agtctatgtc tgccgagcca acaagcccct cacgcgtgac 960
ttcgccactg cggctgctga gctccgagtg cttgctgccc cagccatctc gcaggcaccc 1020
gaggcgctct cgcggacgcg ggccagcacc gcgcgcttcg tgtgccgggc gtccggggag 1080
ccacggcccg cgctgcactg gctgcacgac gggatcccgt tgcgacccaa tgggcgcgtc 1140
aaggtgcagg gcggtggcgg cagcttggtc atcactcaga tcggcctgca ggacgctggc 1200
tactaccagt gcgtagcaga aaacagcgcg ggaactgcct gtgccgctgc gcccctggcg 1260
gtagtggtgc gcgaggggct gcccagcgcc ccgactcggg tcacagccac gccgctgagc 1320
agctcctctg tgctggtggc ctgggagcgg cctgagttgc acagcgagca aatcattggc 1380
ttctctcttc actaccaaaa ggcaagggga gtggacaatg tggagtacca gtttgcagta 1440
aacaatgaca ccacagagct gcaggttcgg gacctggaac ccaacacgga ttatgagttc 1500
tacgtggtgg cctactccca gctgggggcc agccgaacct ccagcccagc cctggtgcat 1560
acactggacg atgtccccag cgcagcaccc cagcttacct tgtccagccc caacccctcg 1620
gacatcaggg tggcatggct gcccctgccc tccagcctga gcaatggaca ggtgctgaag 1680
tacaagatag agtacggttt ggggaaggaa gatcaggttt tctccaccga ggtgcctgga 1740
aatgagacac aacttacgtt aaactcactt cagccaaaca aagtgtaccg agtccggatt 1800
tcagctggca ctggcgctgg ctatggagtc ccttctcagt ggatgcagca caggacacct 1860
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